5(3) SOV/79-29-9-33/76

AUTHORS: Kochetkov, N. K., Ambrush, Ivan, Ambrush, T. I.

TITLE: Acyl Pyrazoles. III. Synthesis and Acidity Constants of 3,5-Diacyl Pyrazoles

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2964-2969 (USSR)

ABSTRACT: The authors continued their investigations of the effect of the substituents upon the acidity of pyrazole derivatives and synthesized the hitherto unknown 3,5-diacyl pyrazoles. The synthesis of 3,5-diacyl pyrazoles developed by them took place by the reaction of β-chloro-vinyl ketones with diazo ketones. This reaction has hitherto not been described in publications. Heating of the reacting compounds without solvent at 70-110°, proceeded smoothly and yielded 40-50% 3,5-diacyl pyrazoles (in the solvent the yields were less high). Methyl-β-chloro-vinyl ketone, propyl-β-chloro-vinyl ketone, tert-butyl-β-chloro-vinyl ketone, phenyl-β-chloro-vinyl ketone, diazo acetone, 1-diazo butanone-2, and ω-diazo acetophenone were introduced into the reaction. Nine 3,5-diacyl pyrazoles were thus obtained. They do not bind the hydrogen chloride forming in the reaction and are not separated in the form of hydrochlorides, but in the form of free bases, in contrast to 3-acyl-pyrazoles (Refs 2,5). Hydrogen

Card 1/2

Acyl Pyrazoles.
III. Synthesis and Acidity Constants of 3,5-Diacyl Pyrazoles

chloride causes partial cleavage of the diazo ketone under the formation of small quantity of ω-chloro ketone. An excess quantity of diazo ketone secured maximum yields (Scheme 1). The structure of the 3,5-substituted pyrazoles was confirmed by the oxidation of 3,5-diacyl pyrazole obtained with permanganate to pyrazole-3,5-dicarboxylic acid. All synthesized 3,5-diacyl pyrazoles were stable, easily crystallizable, and showed distinct acid properties. The spectra of all investigated diacyl pyrazoles indicate the presence of an acid-basic equilibrium in the solutions of these compounds. It was proved that the introduction of a second acyl group into the pyrazole cycle increases acyl pyrazole acidity fivehundred to thousand times. The acidity of diacyl pyrazoles depends on the nature of the radical of the acyl group and decreases according to the scheme $CH_3 > C_2H_5 > n.\text{-}C_3H_7 > (CH_3)_3C$. Thus, the acidity character of acyl pyrazoles was proved to be the same as that of other organic acids (Ref 2). There are 2 figures, 2 tables, and 12 references, 7 of which are Soviet.

Card 2/3

Moscow State U.

5(3)

AUTHORS: Kochetkov, N. K., Gottikh, B. P., Vinokurov, V. G., Khomutov, R. M.

SOV/20-125-1-23/67

TITLE: On the Structure of β-Chlorovinyl Ketones and on the Stereochemistry of the Reaction of Ketovinylation (O konfiguratsii β-khlorvinilketonov i stereokhimii reaktsii ketovinilirovaniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 1, pp 89-92 (USSR)

ABSTRACT: The structure of the substances mentioned in the title RCOCH=CHCl is, in spite of their well elaborated utilization methods (Ref 1), still an unsolved problem. From the most important methods of production (Refs 2-4) it may be assumed that the substances produced in this way have a trans-structure. The authors succeeded in clearly confirming experimentally this assumption. If one of the simple β-chlorovinyl ketones, methyl-β-chlorovinyl ketone is oxidized with sodium hypochlorite, the trans-β-chloro acrylic acid (Ref 5) forms under rigidly controllable conditions as the only product. If this oxidation does not contact the C-atoms with a multiple binding, moreover, if the mild conditions of reaction exclude

the isomerisation of the initial substance and the reaction product a complete transformation of the structure during the reaction is impossible. Due to this fact methyl-β-chlorovinyl ketone has to be regarded as a transisomer. Thus, also all alkyl-, alkenyl-, and aryl-β-chlorovinyl ketones (Refs 2-4) are transisomers under similar conditions. As far as the β-chlorovinyl ketones (Refs 6, 7) produced by other methods are identical with those obtained by condensation with acetylene, they are obviously also transisomers. By the knowledge of the above structure the stereochemistry of the reaction mentioned in the title (Ref 1) could be observed. It is one of the most important reactions of β-chlorovinyl ketones and is only a nucleophilic substitution of a halogen atom. Since the chemical methods cannot be used for determining the structure of the reaction products mentioned the authors used infra-red spectra. Although the authors mention only data on the ketovinylation of sulfinic acids and β-dicarbonyl compounds, they have little doubt that also in other cases (Ref 1) ketovinylation reaction leads to a formation of transisomers. In other words, the reaction takes place under

On the Structure of β-Chlorovinyl Ketones and on the Stereochemistry of the Reaction of Ketovinylation

SOV/20-125-1-23/67

preservation of the structure of the keto-vinyl group of the initial β-chlorovinyl ketone. This preservation may be explained by the substitution mechanism of the halogen (Ref 1, see Scheme) suggested by the author mentioned first. There are 3 figures and 16 Soviet references.

ASSOCIATION: Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR (Institute of Pharmacology and Chemotherapy of the Academy of Medical Sciences, USSR)

PRESENTED: December 1, 1958, by A. N. Nesmeyanov, Academician

SUBMITTED: November 29, 1958

Card 3/3

5(3)
AUTHORS: Kochetkov, N. K., Nifant'yev, E. Ye., Kulakov, V. N. SOV/20-125-2-24/64

TITLE: Synthesis of β-Ketomercaptals (Sintez β-ketomerkaptaley)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 2, pp 327-329 (USSR)

ABSTRACT: The preparative use of β-ketoacetals (Refs 1, 2), which can be obtained readily and with good yields from the interaction with alcohols and glycol of β-chlorovinylketones in an alkaline medium, is rendered difficult by their very marked tendency towards hydrolysis in acid media. For this reason, the synthesis of the sulfurous analogues of the β-ketoacetals, i. e. of the substances mentioned in the title, was attempted. It was known that the mercaptal group is sufficiently stable in the acid medium (Ref 3). In view of the existing difficulties in the synthesis of oxy-methylene-ketones (initial substances), the authors have developed a convenient general synthesis method for β-ketomercaptals by means of ketovinylisation of mercaptans (yields 50-90%). This reaction occurs quite readily in an aqueous solution in the presence of potash. As in the cases of the alcohols and of glycol (Refs 1, 2), and unlike

Card 1/3

Synthesis of β-Ketomercaptals

the processes taking place in the cases of the phenols (Ref 5) and thiophenols (Ref 6) the reaction does not stop after the substitution of the chlorine atom in the chlorovinylketone, but is completed by the attachment of the second mercaptan molecule to the double bond. This is how mercaptal is formed. This reaction has a general character. On the one hand, this reaction is entered into by β-chlorovinylketones both with aliphatic and with aromatic radicals, on the other hand it is entered into by both monatomic and diatomic mercaptans. For this purpose, the sulfurous analogue of ethylene glycol, 1,2-ethane-dithiol (Ref 7) appears most appropriate. The aliphati β-ketomercaptals thus produced are stable oily liquids, their analogues with aromatic radicals are solid, well crystallizable substances. The ketomercaptals enter into such reactions as are typical of the β-ketoaldehydes, which sufficiently proves their structure. They oxidize readily into the corresponding disulfones (with perhydrol in HCl, according to reference 8). These disulfones have a marked tendency towards hydrolytic decomposition in an alkaline medium. These reactions can be of interest for the production

·Synthesis of β-Ketomercaptals SOV/20-125-2-24/64

of various oxy-methyl-ketones. The experimental part contains the usual data. There are 2 tables and 13 references, 8 of which are Soviet.

PRESENTED: December 1, 1958, by A. N. Nesmeyanov, Academician

SUBMITTED: November 29, 1958

Card 3/3

17(4) SOV/20-126-5-62/69

AUTHORS: Kochetkov, N. K., Khomutov, R. M., Karpeyskiy, M. Ya., Budovskiy, E. I., Severin, Ye. S.

TITLE: The Mechanism of the Antibiotic Effect of Cycloserine (O mekhanizme antibioticheskogo deystviya tsikloserina)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 5, pp 1132-1134 (USSR)

ABSTRACT: The cycloserine was paid attention to since its discovery (1955, Ref 1) on the one hand as high effective antituberculous agent, on the other hand as an interesting and suitable object to study the dependence of the biological effect on the structure. In the institute mentioned in the Association for some years a multiple-purpose study of the cycloserine (d-4-amino-isooxazolidone-3) and related compounds has been carried out. Methods of production of several compounds of this series were elaborated, and cycloserine itself was synthesized. It is not only of interest because of its relative simple structure but also because of its unusual complex of properties by which it differs from other known antibiotics. In spite of many papers the theme mentioned in the title was not dealt with (Ref 4).

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The Mechanism of the Antibiotic Effect of Cycloserine SOV/20-126-5-62/69

Data now already available allow the first considerations. It may be supposed that the essential part of the antimicrobic activity of the cycloserine is its influence on the nitrogen metabolism of the micro-organisms. The paper is dedicated to the discussion of the probable nature of this influence in connection with the hypothesis of the biochemical effect of cycloserine proposed by the authors. Cycloserine reacts easily with aromatic aldehydes (datas of this reaction are published separately) and forms instable azomethine derivatives (Schiff's bases). They transform quickly into isomeric, stable compounds under mild conditions. The azomethine derivatives have a weak antimicrobal effect. Cycloserine analogues with substituted amino group and such without amino group are completely inactive. The racemate of the antibiotic is not inferior to the natural d-isomer in relation to activity but it even surpasses the latter sometimes in this regard. This cannot be explained till now. (The said activity of the single substances was investigated under the direction of Prof. A. M. Chernukha by M. A. Breger, I. R. Balyn', V. P. Zuyeva, G. A. Ivanova, N. A. Kalinina, G. Ya. Kivman, V. S. Mitrofanov, E. G. Mukhadze, V. N. Solov'yev, N. M. Smol'nikova, and N. V. Chumachenko in

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the chemotherapy department.) The authors suppose that the suppression of the AIKA-Biosynthesis is one of the most important manifestations of the antibiotic activity of cycloserine (Ref 5). If this is right then the cycloserine must influence the transamination reaction suppressingly. Actually experiments made by Ye. D. Vyshepan and K. I. Ivanova on the request of the authors have shown that cycloserine completely inhibits the enzymatic transamination in the system pyruvic acid - glutaric acid in concentrations corresponding to the bacteriostatic one (5-10 γ/ml). The original action of the inhibition mechanism is the formation of the azomethine derivative by means of enzyme coferments catalyzing the transamination with the pyridoxal phosphate. The resulting Schiff's base must become a compound which cannot decompose again. Possible ways of such a stabilisation are indicated. By the said original action the synthesis of the aspartic and glutamic acid and of the glycine is suppressed. The disturbance of the biosynthesis of the specific nucleoproteids caused thereby is for example lethal for Microbacterium tuberculosis at which they are the main part of its proteins (Ref 9). The datas given here are in line with the existing datas concerning the activity of the analogues of this anti-

The Mechanism of the Antibiotic Effect of Cycloserine SOV/20-126-5-62/69

biotic (Refs 7,10). The estimation does not enclose all the cycloserine action but only part of it. The salts being formed easily by cycloserine and its azomethine derivatives with heavy metals can be toxic for the micro organisms or they can withdraw trace elements (Fe, Cu, Zn, Mg) out of the sphere of the micro-organisms. There are 10 references, 4 of which are Soviet.

ASSOCIATION: Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR (Institute of Pharmacology and Chemotherapy of the Academy of Medical Sciences, USSR)

PRESENTED: March 12, 1959, by A. N. Nesmeyanov, Academician

SUBMITTED: March 12, 1959

Card 4/4

5 (2)

AUTHORS: Kudryavtseva, T. A., Chirkov, N. M., Kochetkov, N. K. SOV/20-127-1-28/65

TITLE: The Reaction Kinetics of a Nucleophilic Substitution of Chlorine in Phenyl-β-chlorovinyl-ketone (Kinetika reaktsii nukleofil'nogo zameshcheniya khlora v fenil-β-khlorvinilketone)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 1, pp 108 - 110 (USSR)

ABSTRACT: The published data on the reaction at the unsaturated carbon atom mentioned in the title is very rare. The halogen atom at the carbon with a double bond in compounds of the chlorovinyl-ketone type is known to be very inert in substitution reactions. It gets, however, unstable and enters easily into the aforementioned reaction if the other side of the double bond is an electrophilic group (CO, COOH, COOR etc.) (Refs 1,2). Since the hitherto existing data were merely qualitative, no comparison was possible of the mobility of the halogen with respect to the type of the activating groups (CO, COOH, COOR etc.) as well as with respect to the type of the attacking nucleophilic reagent. The kinetic data necessary for this purpose was obtained in the laboratory of the institute mentioned in the Association (Ref 3);

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the topic mentioned in the title was investigated as its continuation. The above substance is known to be a trans-isomer (Ref 4). Its solution (in absolute ether) was mixed with a solution of sodium ethylate (in excess). Methyl alcohol served as a thermostat. Figure 1 shows the resultant kinetic curves. The velocity constants calculated from the latter (by the formula for irreversible bimolecular reaction) were practically constant. Table 1 shows that the doubling of the initial concentration of sodium ethylate changed the reaction velocity as was expected, the values of the above-mentioned constants remained nevertheless the same. The pre-exponential member K_o = $= 4 \cdot 10^7$ was too low by three orders of magnitude compared with a normal one for a bimolecular reaction (Table 2). This indicates that the reaction is in this case in fact bimolecular (as well as in the case of β-chloro-crotonic acids, Ref 3). Thus, the type of the activating groups does not influence the exchange reaction order of halogen substitution in compounds of the type of β-substituted halogen vinyls. The type of this group influences, however, considerably the exchange rate of

The Reaction Kinetics of a Nucleophilic Substitution of Chlorine in Phenyl-β-chlorovinyl-ketone SOV/20-127-1-28/65

the halogen atom, i.e. the activation energy (see Scheme p 108). There are 2 figures, 2 tables, and 5 references, 4 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences, USSR)

PRESENTED: March 9, 1959, by V. N. Kondrat'yev, Academician

SUBMITTED: March 3, 1959

Card 3/3

KOCHETKOV, Nikolay K., (Prof.) and KHORLIN, A. Ya.

"The Triterpenoid Saponins from the Root of Aralia manschurica "

report to be submitted for the Symposium on the Chemistry of Natural Products, Intl. Union of Pure and Applied Chem. (IUPAC), Melbourne, Canberra, and Sydney, Australia, 15-25 Aug 60

Inst. of the Chemistry of Natural Compounds, Moscow

KOCHETKOV, N.K.; LIKHOSHERSTOV, A.M.; LIKHOSHERSTOV, L.M.

New method of synthesizing natural amino alcohols of the pyrrolisidine and quinolisidine series. Zhur. VKHO 5 no.1:109-110 '60.
(MIRA 14:3)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Alcohols) (Phrrolopyrrole)
(Norlupinane)

KOCHETKOV, N.K.; LIKHOSHERSTOV, A.M.

Synthesis of d, l-iseretronecanol. Zhur. VKHO 5 no.4:477-478 '60.
(MIRA 13:12)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Retronecanol)

KOCHETKOV, N.K.; BELYAYEV, V.F.

Ketovinylation of nitro compounds. Zhur. VKHO 5 no.6:706 '60.
(MIRA 13:12)

1. Institut khimii prirodnykh soyedineniy Akademii nauk SSSR.
(Nitro compounds)

5.3600

77393
SOV/79-30-1-54/78

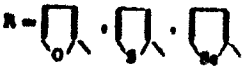
AUTHORS: Kochetkov, N. K., Nifant'yev, E. Ye., Nifant'yeva, L. V.

TITLE: β-Chlorovinyl Ketones of the Heterocyclic Series

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 241-245 (USSR)

ABSTRACT: Synthesis of some β-chlorovinyl ketones, containing a five-membered heterocyclic radical, by the condensation of the corresponding acid chlorides with acetylene, was studied. It was found that acid chlorides of furan-2-carboxylic, thiophene-2-carboxylic, and selenophene-2-carboxylic acids easily condense with acetylene to form corresponding β-chlorovinyl ketones:

$$RCOCl + CH{\equiv}CH \xrightarrow{AlCl_3} RCOCH{=}CHCl$$

R = 

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β-Chlorovinyl Ketones of the Heterocyclic Series

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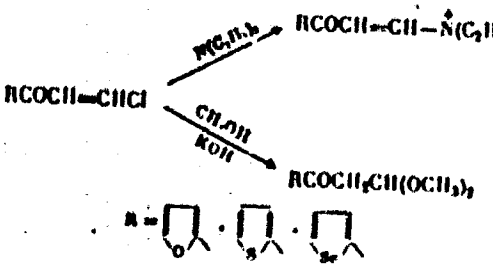
The reaction takes place at 30-40°. The heterocyclic β-chlorovinyl ketones, like other vinyl ketones, react with alcohol in the presence of alkalis to form β-keto-acetals:



They also readily condense with $p\text{-}NO_2C_6H_4NHNH_2$ to form corresponding pyrazole derivatives. Thienyl-(2)-β-chlorovinyl ketone condenses with β-naphthol in the presence of ferric chloride and HCl.

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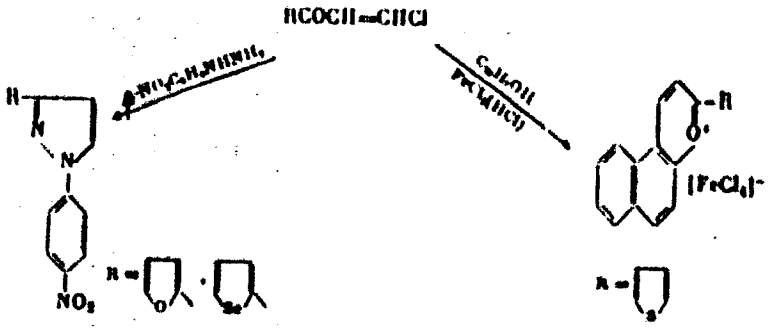
β-Chlorovinyl Ketones of the Heterocyclic Series

77292
SOV/79-30-1-54/78



Preparation of the following compounds is given: Furyl-(2)- β-chlorovinyl ketone (41%, based on acid chloride), bp 102-105° (10 mm). Thienyl-(2)- β-chlorovinyl ketone (65%), bp 154-156.5° (23 mm). Selenyl-(2)- β-chlorovinyl ketone (45%), bp 132-135° (7 mm).

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β-Chlorovinyl Ketones of the Heterocyclic Series

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SOV/79-30-1-54/78

Dimethyl acetal of furoyl-(2)-acetaldehyde (64%), bp 122-123° (10 mm), n_D^{20} 1.4998, d_4^{20} 1.1800. Dimethyl acetyl of thienoyl-(2)-acetaldehyde (53%), bp 147-148° (8 mm), n_D^{20} 1.5146, d_4^{20} 1.1910. 3-Furyl-(2')-1-(p-nitrophenyl)-pyrazole (62%), mp 70.5-72°. 3-Selenyl-(2')-1-(p-nitrophenyl)-pyrazole (63%), mp 100-101°. 2-Thienyl-(2')-napth8-(1,2:5,6)-pyrylium ferrichloride (66%), mp 176-177°. There are 11 Soviet references.

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: September 30, 1958

Card 4/4

5.3400

78258
SOV/79-30-3-42/69

AUTHORS: Kochetkov, N. K., Gottikh, B. P.

TITLE: Reaction of β-Chlorovinyl Ketones With β-Carbonyl Compounds. XI. Ketovinylation of Methylacetylacetone and 2-Methyldihydroresorcinol. Synthesis of Unsaturated δ-Diketones

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 948-953 (USSR)

ABSTRACT: The reaction of the sodium derivative of methylacetone with β-chlorovinyl ketones in benzene, yields the following ketovinylation products: methyl-(3-ketobuten-1-yl-acetylacetone (I), yield 59%, bp 100-101° (1 mm), n_D^{20} 1.4860; methyl-(3-ketopent-1-yl)-acetylacetone (II), yield 44%, bp 106-107.5° (1 mm), n_D^{20} 1.4822; methyl-(3-ketohexen-1-yl)-acetylacetone (III), yield 59%, bp 116-118° (1 mm),

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Reaction of β-Chlorovinyl Ketones With β-Carbonyl Compounds. XI

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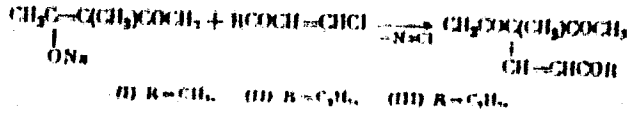
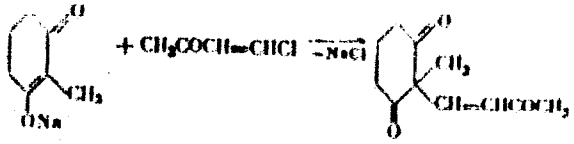
SOV/79-30-3-42/69

n_D^{20} 1.4795. Ketovinylation of 2-methyl-dihydroresorcinol in dioxane yields 2-methyl-2-(3-ketobut-1-yl)-dihydroresorcinol (IV), yield 26%, mp 61-63.5°, previously not known.



a) R=CH₃, b) R=C₂H₅, c) R=C₆H₅



(IV)

Methyl-(3-ketoalk-1-yl)-acetylacetones yield unsaturated δ-diketones when subjected to alkali treatment.

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Reaction of β-Chlorovinyl Ketones With β-Carbonyl Compounds. XI

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$CH_3COC(CH_3)COCH_3 \xrightarrow{OH^-} ROOCH{=}CHCH(CH_3)COCH_3$
$CH{=}CHCOR$
(V) R=CH_3, (VI) R=C_2H_5, (VII) R=C_4H_9

The following unsaturated δ-diketones were prepared: 3-methylhept-4-ene-2,6-dione (V), yield 76.5%, bp 74-75.5° (1 mm), n_D^{20} 1.4756; 3-methyloct-4-ene-2,6-dione (VI), yield 76.5% bp 82-83° (1 mm), n_D^{20} 1.4743; 3-methylnon-4-ene-2,6-dione (VII), yield 81.5%, bp 87-88.5° (1 mm), n_D^{20} 1.4725. The structure of the prepared δ-diketones was confirmed by analysis and by conversion of 3-methylhept-4-ene-2,6-dione into 1,4-dimethylcyclohexan-2-one. Hydrogenation of 3-methylhept-4-ene-2,6-dione over palladium on barium sulfate yield 3-methylhepta-

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Reaction of β-Chlorovinyl Ketones With β-Carbonyl Compounds. XI

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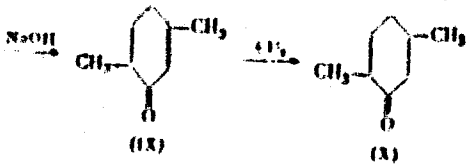
-2,6-dione (VIII), yield 94%, bp 79-80.5° (5 mm), n_D^{20} 1.4353, which when treated with 10% solution of sodium hydroxide at 30°, yields 1,4-dimethylcyclohex-1--ene-3-one (IX), yield 70%, bp 76-78° (8 mm), n_D^{20} 1.4967. The hydrogenation of the latter over palladium on bariumsulfate yields 1,4-dimethylcyclohexan-2-one (X), bp 176-177° (745 mm), n_D^{20} 1.4460.

$$CH_3COCH{=}CHCH(CH_3)COCH_3 + H_2 \longrightarrow CH_3COCH_2CH_2CH(CH_3)COCH_3 \longrightarrow$$

(VIII)



(IX) (X)

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There are 18 references, 11 Soviet, 1 U.S., 1 U.K.,

Reaction of β-Chlorovinyl Ketones With β-Carbonyl Compounds. XI.

78288
SOV/79-30-3-42/69

3 German, 2 French. The U.S. and U.K. references are: Hauser, C., Adams, J., J. Am. Chem. Soc., 66, 345 (1944); Harding, V., Haworth, W., Perkin, W. H., J. Chem. Soc., 93, 1970 (1908).

ASSOCIATION: Institute of Pharmacology and Chemotherapy of the Academy of Medical Sciences of the USSR (Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR)

SUBMITTED: March 24, 1959

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5.3610

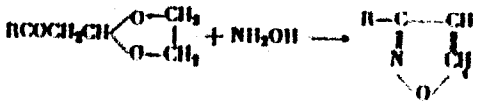
78289
SOV/79-30-3-43/69

AUTHORS: Kochetkov, N. K., Khomutova, Ye. D.

TITLE: Investigation in Isoxazole Series. IX. Synthesis of 3-Substituted Isoxazoles. Cleavage of Isoxazoles With Sodium Amide

PERIODICAL: Zhurnal obchshey khimii, 1950, Vol 30, Nr 3, pp 954-958 (USSR)

ABSTRACT: This paper describes a new method of synthesis of 3-substituted isoxazoles by the condensation of ethylene glycol acetals of β -ketoaldehydes with NH_2OH



(I) R = C_6H_5; (II) R = Iso-C_4H_9; (III) R = C_4H_9

Card 1/3 The reaction is carried out in a water-dioxane solution.

Investigation in Isoxazole Series. IX.

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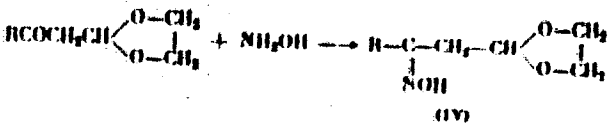
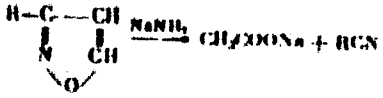
SOV/79-30-3-43/69

The reaction mixture, after mixing, was left to stand for 2 days and then heated on a water bath for 20 hr. It was shown, using 3-phenylisoxazole, that the reaction proceeds through the formation of an intermediate oxime:



(IV)

It was shown that 3-substituted isoxazoles decompose under the action of $NaNH_2$ to form sodium acetate and the corresponding nitrile:



Card 2/3

Investigation in Isoxazole Series. IX. 78289
SOV/79-30-3-43/69

The decomposition reaction proceeds readily and the products of decomposition are easily identifiable; it is recommended by the authors as a method of identifying 3-substituted isoxazoles and their structure proof. The following compounds were prepared: 3-phenylisoxazole (III), 65% yield, bp 89-90° (2 mm), n_D^{20} 1.5735, d_4^{20} 1.1408; 3-propylisoxazole (I), 67% yield, bp 74-75° (40 mm), n_D^{20} 1.4435; 3-isobutylisoxazole (II), 77% yield, bp 81-82° (30 mm). There are 9 references, 3 German, and 6 Soviet.

ASSOCIATION: Moscow State University (Moskovskiy gosudarstvennyy universitet)

SUBMITTED: March 30, 1959

Card 3/3

S/079/60/030/04/48/080
B001/B002

AUTHORS: Kochetkov, N. K., Khomutova, Ye. D.

TITLE: Investigation of the Isoxazole Series. X. Mercurization of Isoxazoles ?

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 4, pp. 1269-1271

TEXT: With reference to their previous investigation (Refs. 1,2) on the mercurization of isoxazole derivatives, which is known to be very characteristic, the authors here show that both alkylisoxazoles (3- and 5-methyl-, 3,5-dimethylisoxazole) and arylisoxazoles (3-phenylisoxazole) may enter into the mercurization reaction. In all cases mercurization was caused by heating the isoxazole compound with undissolved mercury acetate in boiling water. The mercury acetates (I) thus developing in good yields, may easily be converted into mercury bromides (II) by means of potassium bromide (Scheme). The mercurization of 3-phenylisoxazole is more difficult than that of 5-phenylisoxazole, and that of 3-methylisoxazole more difficult than that of 5-methylisoxazole. No mercurization took place in the mercurization experiment with non-substituted isoxazole, but it

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Investigation of the Isoxazole Series. X. Mercurization of Isoxazoles

S/079/60/030/04/48/080
B001/B002

oxidized under separation of mercury (I) salts. The mercurization of isoxazoles which is easier than that of benzene derivatives (Ref. 3), makes the isoxazole cycle more similar to the pyridine cycle (Ref. 2) which mercurizes easily (Ref. 3). The mercurization of isoxazoles differs from the mercurization of the aromatic derivatives by the fact that the reaction with regard to the monosubstituted derivatives is unequivocal, if the development of isomers is possible: in all cases, only one substitution product develops (Ref. 3). The structure of the synthesized mercury compounds was thus confirmed by their conversion into the corresponding bromides (III). It was shown that the mercurization in all cases takes place in position 4 of the isoxazole cycle. There are 4 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: March 30, 1959

Card 2/2

BELYAYEV, V.F.; BELOKURSKAYA, M.N.; KOCHKOV, N.K.

Interaction between β-chlorovinyl ketones and β-dicarbonyl compounds. Part 12: Ketovinylation of ethyl α-benzoylpropionate and ethyl α-benzoylbutyrate. Zhur.ob.khim. 30 no.5: 1492-1495 My '60. (MIRA 13:5)

1. Belorusskiy gosudarstvennyy universitet i Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Propionic acid) (Butyric acid) (Ketones)
(Vinyl compounds)

KOCHETKOV, N.K.; BELYAYEV, V.F.

Synthesis of chalcones from β-chlorovinyl ketones. Zhur.ob. khim. 30 no.5:1495-1497 My '60. (MIRA 13:5)

1. Belorusskiy gosudarstvennyy universitet i Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Chalcone) (Ketones)

S/079/60/030/006/032/033/XX
B001/B055

AUTHORS: Kochetkov, N. K. and Nifant'yev, E. Ye.

TITLE: Oxidation of β-Ketoacetals by Means of Lead Tetraacetate

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 6, pp. 1866 - 1872

TEXT: The highly reactive and accessible β-ketoacetals $ROOCH_2CH(OR')_2$ (Refs. 1 - 4) are being used more and more in synthetic chemistry, though some of their very promising reactions have scarcely been investigated up to now. The reactivity of the central methylene group has been given least consideration, particularly as far as the substitution of its hydrogen atoms is concerned (Refs. 5,6). The present publication deals with the oxidation of β-ketoacetals by means of lead tetraacetate. Using this method, the authors (Ref. 3) and independently of them, other authors (Refs. 7,8) were able to introduce oxygen into the methylene group of β-ketoacetals,

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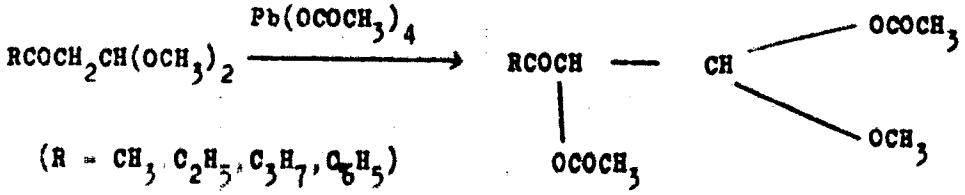
but gave no details concerning the reaction. Recently however, when this investigation was practically concluded, a full description of the oxidation of acetaldehyde dimethyl acetal has been published in Ref. 9. The authors mainly studied the structure of the reaction products. Without giving direct evidence, the authors of Refs. 7 - 9 showed that the reaction proceeds according to Scheme 1. The authors of the present paper also found two acetoxy groups, which confirms the structure of the oxidation product. The oxidation of β-ketoacetals is of general importance, since the method can be applied to both aromatic and aliphatic β-ketoacetals:



APPROVED FOR RELEASE: 09/18/2001 CIA-RDP86-00513R000723510016-6

are obtained which are not readily accessible by other methods, while in the second case only invaluable paraffin hydrocarbons are formed. There are 2 tables and 9 references: 4 Soviet, 4 US, and 1 British.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences USSR)

SUBMITTED: June 29, 1959

KOCHETKOV, N.K.; LIKHOSHERSTOV, A.M.; BUDOVSKII, E.I.

Pyrrolisidine of alkaloids. Part 1: Synthesis of 1-hydroxymethylpyrrolisidine (dl-trachelanthamidine). Zhur.ob.khim. 30 no.6:2077-2082 Je '60. (MIRA 13:6)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Trachelanthamidine)

S/079/60/030/007/034/039/XX
B001/B066

AUTHORS: Kochetkov, N. K., Nifant'yev, E. Ye., and Shibayev, V. N.

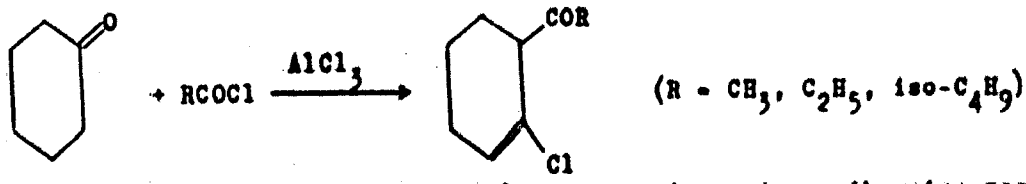
TITLE: Synthesis of Acyl-2-chloro-cyclohexenes-2 and Ethylene Ketals of 2-Acyl-cyclohexanones. A New Synthesis of Phenanthrenes

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7, pp. 2275-2282

TEXT: The authors describe the synthesis of the ethylene ketals of 2-acyl-cyclohexanones which have not been described as yet and were used as the starting material in a more convenient method of synthesizing phenanthrene derivatives. The synthesis was made on the basis of acyl-2-chlorocyclo-hexenes-2 which had been obtained by the authors in Ref. 1 by condensation of cyclohexanone with acid chlorides in the presence of $AlCl_3$, most suitably in a molar ratio of 2-3 $AlCl_3$: 2-3 acid chloride : 1 ketone:

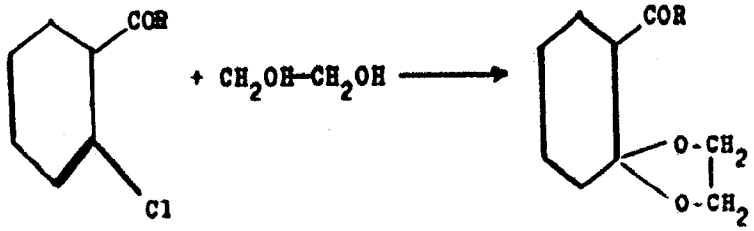
Synthesis of Acyl-2-chloro-cyclohexenes-2 and Ethylene Ketals of 2-Acyl-cyclo-hexanones. A New Synthesis of Phenanthrenes

S/079/60/030/007/034/039/XX
B001/B066



(R = CH_3, C_2H_5, iso-C_4H_9)

The reaction must be carried out at low temperature since otherwise resinification occurs (yield, 45-80%). On reaction of acyl-2-chlorocyclohexene-2 with ethylene glycol which has been earlier used by the authors (Refs. 2, 10, 11), the ethylene ketals of 2-acyl-cyclohexanones were obtained (50-60%)



Card 2/4

Synthesis of Acyl-2-chloro-cyclohexenes-2 and Ethylene Ketals of 2-Acyl-cyclo-hexanones. A New Synthesis of Phenanthrenes

S/079/60/030/007/034/039/XX
B001/B066

The best solvent is dioxane. Ethylene ketals of 2-acyl-cyclohexanones in which one of the carbonyl groups is protected, are a convenient starting material. In this case, they were used as initial compounds for a new synthesis of the phenanthrene system. This synthesis is closely related to the synthesis of the naphthalene ring described by the authors in Refs. 10, 12, and is performed according to scheme 3. On reaction of the ethylene ketals with benzyl magnesium chloride, the corresponding oxy-ketals are formed which are directly converted to 1,2,3,4-tetrahydro-phenanthrenes by aromatic cyclodehydration. The best condensing agents were hydrogen bromide in acetic acid, or mixtures of concentrated sulfuric and phosphoric acid. Tetrahydrophenanthrenes are separable by distillation. They are purified by producing the picrates. By this method, some 10-alkyl-1,2,3,4-tetrahydrophenanthrenes hitherto unknown were obtained in yields of between 25 and 55%. The structure of the resultant compounds was confirmed by the absorption spectra in ultraviolet, which are characteristic of the tetrahydrophenanthrene ring. The resultant tetrahydro-phenanthrenes are quantitatively converted to 9-alkyl-phenanthrenes when heated with palladium-on-carbon (Scheme 4). There are 19 references: 10 Soviet, 5 US,

Card 3/4

Synthesis of Acyl-2-chloro-cyclohexenes-2 and Ethylene Ketals of 2-Acyl-cyclo-hexanones. A New Synthesis of Phenanthrenes

S/079/60/030/007/034/039/XX
B001/B066

1 British, 2 German, and 2 French.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: July 6, 1959

Card 4/4

KOCHETKOV, N.K.; KHORLIN, A.Ya.; VOROTNIKOVA, L.A.

Amines with ganglioplytic activity. Part 3: Secondary diamines with a branched chain. Zhur.ob.khim. 30 no.7: 2303-2305 Jl '60. (MIRA 13:7)

1. Nauchno-issledovatel'skiy institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Amines)

BUDOVSKIY, E.I.; KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.; KOCHETKOV, N.K.

Some substituted 2-aryl-5-aryliden -$\Delta^{1,4}$-imidazolin-4-ones. Zhur. ob.khim. 30 no.8:2569-2573 Ag '60. (MIRA 13:8)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Imidazolinone)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; SEVERIN, Ye.S.

Stereochemistry of aslactones. Zhur.ob.khim. 30 no.8:2573-2578 Ag '60. (MIRA 13:8)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Aslactones)

KOCHETKOV, N.K.; DUDYKINA, N.V.

Some 2-methyl-3-aryl-2,3-butanediols. Zhur. ob. khim. 30 no.9:3054-3057 S '60. (MIRA 13:9)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Butanediol)

KHOMUTOV, R.M.; KARPEYSKIY, M.Ya.; CHZHAN CHZHI-PIN [Chang Chih-ping]; KOCHETKOV, N.K.

Cycloserine and related compounds. Part 11: 4-Hydroxy-3-isoxazolidinone and its derivatives. Zhur. ob. khim. 30 no.9:3059-3060 S '60. (MIRA 13:9)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Isoxazolidinone)

KOCHETKOV, N.K.; SOKOLOV, S.D.; ZHVIRBLIS, V.Ye.

Isoxazole series. Part 11: Condensation of isoxazoles with aromatic aldehydes. Zhur. ob. khim. 30 no.11:3675-3682 N'60. (MIRA 13:11)

1. Moskovskiy gosudarstvennyy universitet.
(Isoxazole) (Aldehydes)

5.3400

67951

SOV/20-130-1-26/69

5(3)

AUTHORS: Nifant'yev, E. Ye., Molodtsov, M. V., Kudryashov, L. I., Kochetkov, N. K.

TITLE: Ethylene Acetals of α-Bromaroylacetaldehydes and Their Transformations

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 1, pp 94-97 (USSR)

ABSTRACT: The authors wanted to synthesize β-ketoacetals with functional groups in the molecule. For this purpose, they investigated the exchange reaction of the bromine atom in the α-bromo-β-keto-acetals $RCO-CHBr-CH(OR')_2$ the synthesis method of which they had worked out recently (Ref 2). α-Bromo-substituted ethylene acetals of the aromatic series $ArCOCHBrCH(OCH_2)_2$ were best suited. Such compounds were produced by bromination of the ethylene acetals of aroylacetaldehydes (see Scheme). The bromination was achieved either by bromine action in ethereal solution in the presence of barium carbonate (Ref 2) or by bromosuccinimide. The products obtained and mentioned in the title are stable, crystalline substances. Their bromine atom is quite readily exchanged by interaction with salts of some mineral acids. Thus, corresponding α-substituted ethylene acetals of

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Ethylene Acetals of α-Bromaroylacetaldehydes and Their Transformations

307/20-130-1-26/69

aroylacetaldehydes (see Scheme) are formed, namely α-iodine- and α-thiocyanogen-substituted ethylene acetals. A little more difficult is the substitution of bromine by the nitro group while α-nitro-β-ketoacetal is formed. The above compounds represent a valuable initial material for the synthesis of some hardly accessible substances such as 4-benzoyl-2-oxythiazol. The interaction of brominated ketoacetals with mercaptanes proceeds smoothly. The reaction of the ethylene acetal of α-bromobenzoylacetaldehyde with sodiumbenzylmercaptide in methanol produces the ethylene acetal of α-benzylthiobenzoyl-acetaldehyde (see Scheme, Fig 1: I - the UV spectrum). The same bromoacetal reacts differently with sodium phenolate. No pure compound could be isolated from the resulting complex mixture by the reaction in acetone. On the other hand, the same reaction in methanol yielded a crystalline substance the analysis of which corresponded to the β-phenoxy-β-methoxy-α-oxy-hydrocinnamic aldehyde. Its UV spectrum (Fig 1: II) proves the missing benzoyl group and confirms the structure mentioned. It seems that the reaction with sodium phenolate proceeds via a transient α-oxide (similar to reactions described by T. I. Temnikova, Ref 5, see Scheme)

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Ethylene Acetals of α-Bromaroylacetaldehydes and Their Transformations

SOV/20-130-1-26/69

The interaction of bromoketoacetals with amines is complicated by the fact that - besides the exchange of the bromine atom - the acetal group enters the reaction. Thus, the phenyl-α,β-di-N-piperidylvinylketone develops in a high yield from the ethylene acetal of the α-bromobensoylacetaldehyde and piperidine (UV spectrum, Fig 1: IV). Table 1 shows the constants and yields of the substances produced. There are 1 figure, 1 table, and 7 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: June 9, 1959, by A. N. Nesmeyanov, Academician

SUBMITTED: June 6, 1959

Card 3/3

KOCHESHKOV, N.K.; SOKOLOV, S.D.; VAGURTOVA, N.M.; NIKANT'YEV, N.Ye.

Organomagnesium compounds of the isoxazole series. Dokl. AN SSSR 133 no.3:598-601 Jl '60. (MIRA 13:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova. Predstavleno akad. A.N.Nesmeyanovym.
(Magnesium organic compounds)
(Isoxazole)

KOCHETKOV, N.K.; KUDRYASHOV, L.I.; USOV, A.I.

Interaction between diisopropylidene glucose and halogen complexes of triphenyl phosphite. Dokl.AN SSSR 133 no.5:1094-1097 Ag '60. (MIRA 13:8)

1. Institut khimii prirodnykh soyedineniy Akademii nauk SSSR. Predstavleno akad. A.N. Nesmeyanovym.
(Glucose) (Phenyl phosphite)

KOCHETKOV, N. K., LIKHOSHERSTOV, L. M. (USSR)

"Synthesis of Pyrrolizidine Alkaloids."

Report presented at the 5th Int'l. Biochemistry Congress, Moscow, 10-16 Aug 1961.

KOCHETKOV, N. K., KHORLIN, A. YA., VASKOVSKIY, V. YE., ZHVIRBLIS, V. YE., OVODOV, YU. S. (USSR)

"Investigations of Triterpene Saponins."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 August 1961

KOCHETKOV, Nikolay Konstantinovich; TOROPOV, Igor' Vladimirovich, doktor khim. nauk; BOTVINNIK, Mariya Moiseyevna, doktor khim. nauk; SHPANOV, V.V., red. izd-va; LAUT, V.G., tekhn. red.

[Chemistry of natural compounds; carbohydrates, nucleotides, steroids, proteins] Khimiia prirodnykh soedinenii; uglevody, nukleotidy, steroidy, belki. Moskva, Izd-vo Akad. nauk SSSR, 1961. 558 p. (MIRA 14:8)

1. Chlen-korrespondent AN SSSR (for Kochetkov).
(Carbohydrates) (Nucleotides) (Steroids) (Proteins)

KOCHETKOV, N.K.; DEREVITSKAYA, V.A.; LIKHOSHERSTOV, L.M.

Carbodiimide method for the condensation of carbohydrates with amino acids. Zhur. VKHO 6 no.2:226-229 '61. (MIRA 14:3)

1. Institut khimii prodnykh soyedineniy AN SSSR.
(Carbohydrates) (Carbodiimide) (Amino acids)

KOCHETKOV, N.K.; SOKOLOV, S.F.; ZHVIRBLIS, V.Ye.

Oxymethylation of 3, 5-dimethyloxasole. Zhur.VKHO 6 no.4:466-467 '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Oxasole)

DEREVITSKAYA, V.A.; MOLODTSOV, N.V.; KOCHETKOV, N.K.

Simple synthesis of N-aminoacyl derivatives of amino sugars.
Zhur.VKHO 6 no.5:594-595 '61. (MIRA 14:10)

1. Institut khimii prirodnykh soyedineniy Akademii nauk SSSR.
(Glucosamine)

KOCHETKOV, N.K.; NIFANT'YEV, E.Ye.

Chemistry of β-keto acetals. Usp. khim. 30 no. 1:31-47 Ja '61.
(MIRA 14:2)

1. Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.
(Acetals)

KOCHETKOV, N.K.; DUDYKINA, N.V.

Substituted amides of 3-indazolecarboxylic acid and 3-indazolymethylamines. Zhur. ob. khim. 31 no.1:201-204 Ja '61. (MIRA 14:1)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.
(Indazole) (Indazolecarboxylic acid)

VINOKUROV, V.G.; TROITSKAYA, V.S.; KOCHETKOV, N.K.

Cycloserine and related compounds. Part 11: Infrared spectra of 3-isoxazolidinones. Zhur. ob. khim. 31 no.1:205-210 Ja '61. (MIRA 14:1)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Isoxazolidinone—Spectra)

KOCHETKOV, N.K.; KHORLIN, A.Ya.; VAS'KOVSKIY, V.Ye.; ZHVIRBLIS, V.Ye.

Triterpenic saponins. Part 1: Saponins from Manchurian aralia. Zhur. ob. khim. 31 no.2:658-665 F '61. (MIRA 14:2)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Saponins)

KOCHETKOV, N.K.; KUCHEROVA, N.F.; ZUKOVA, I.G.

Indole derivatives. Part 7: Synthesis of some derivatives of 1,2,3,4,4a,9a-hexahydro-γ-carboline. Zhur. ob. khim. 31 no.3:924-930 Mr '61. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut farmakologii i khimioterapii.

(Pyridindole)

KUCHEROVA, N.P.; ZHUKOVA, I.G.; KAMZOLOVA, N.N.; PETRUCHENKO, M.I.; SHARKOVA, N.M.; KOCHETKOV, N.K.

Indole derivatives. Part 8: 9-Acyl-1,2,3,4,4a,9a-hexahydro-6-carbolines. Zhur.ob.khim. 31 no.3:934-936 Mr '61. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut farmakologii i khimioterapii.
(Pyridindole)

CHZAN CHZI-PIN [Chang Chih-p'ing], KHOMUTOV, R.M.; BUDOVSKIY, E.I.; KOCHETKOV, N.K.

Cycloserine and related compounds. Part 12: 4-Sulfanilamido-3-isoxazolidone (sulfacycloserine). Zhur. ob. khim. 31 no.3:1011-1015 Mr '61. (MIRA 14:3)

1. Nauchno-issledovatel'skiy institut farmakologii i khimioterapii.
(Isoxazolidinone)

BUDOVSKIY, M.I.; CHZHAN CHZHI-PIN [Chang Chih-p'ing]; KOCHETKOV, N.K.

Cycloserine and related compounds. Part 13: Some 4-amino-3-pyrazolidones. Zhur. ob. khim. 31 no.4:1297-1303 Ap '61. (MIRA 14:4)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Pyrazolidinone)

KHORLIN, A.Ya.; VOROTNIKOVA, L.A.; KOCHETKOV, N.K.

Amines with ganglioplytic activity. Part 4: Tertiary aliphatic amines with a branched chain. Zhur.ob.khim. 31 no.6:1827-1830 Je '61. (MIRA 14:6)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Amines)

KOCHETKOV, N.K.; KUDRYASHOV, L.I.; SENCHENKOVA, T.N.

Interaction of a triphenyl phosphite-bromine complex with ethylene glycol and its derivatives. Zhur.ob.khim. 31 no.6:1830-1832 Je '61. (MIRA 14:6)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Phosphorous acid) (Bromine compounds) (Ethylene glycol)

KOCHETKOV, N.K.; SOKOLOV, S.D.; VAGURTOVA, N.M.

Isoxazole series. Part 12: Iodination and bromination of isoxazoles. Zhur.ob.khim. 31 no.7:2326-2333 Jl '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Isoxazole)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; CHZHAN CHZHI-PIN [Chang Chih-p'ing]

Cycloserine and related compojnds. Part 14: 4-amino-3-pyrasolidinone (deacycloserine). Zhur.ob.khim. 31 no.10:3292-3298 O '61. (MIRA 14:10)

(Pyrasolidinone)

KOCHETKOV, N.K.; KUDRYASHOV, L.I.; USOV, A.I.; DMITRIYEV, B.A.

Monosaccharides. Part 1: New synthesis of D-quinovose and D-fucose. Zhur.ob.khim. 31 no.10:3303-3308 O '61. (MIRA 14:10)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Glucose) (Fucose)

KOCHETKOV, N.K.; KHORLIN, A.Ya.; CHIZHOV, O.S.

Chemical investigation of Schisandra chinensis. Part 1: Schisandrin and related compounds. Zhur.ob.khim. 31 no.10:3454-3460 O '61. (MIRA 14:10)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Schisandra chinensis)

KOCHETKOV, N.K.; LIKHOSHERSTOV, A.M.; LEBEDEVA, A.S.

Pyrrolisidine alkaloids. Part 2. Stereospecific synthesis of d, l-isoretronecanol. Zhur.ob.khim. 31 no.10:3461-3469 O '61. (MIRA 14:10)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Isoretronecanol)

KOCHETKOV, N.K.; KUDRYASHOV, L.I.; MOLODTSOV, N.V.; KHOMUTOVA, Ye.D.

Benzoates of 2,5-dimethoxy-2,5-dehydrofurfuryl alcohols and some of their reactions. Zhur.ob.khim. 31 no.12:3909-3916 D '61. (MIRA 15:2)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Benzoic acid)
(Furfuryl alcohol)

KOCHETKOV, N.K.; KHORLIN, A.Ya.; BOCHKOV, A.F.

Synthesis of k-strophanthin-β. Dokl. AN SSSR 136 no. 3:613-616 Ja '61. (MIRA 14:2)

1. Institut khimii prirodnykh soyedineniy AN SSSR. 2. Chlen-korrespondent AN SSSR (for Kochetkov).
(Strophanthin)

KOCHETKOV, N.K.; ZHUKOVA, I.G.; GLUKHOVED, I.S.

Thin-layer chromatography of cerebrosides. Dokl. AN SSSR 139 no.3:608-611 Jl '61. (MIRA 14:7)

1. Institut khimii prirodnykh soyedineniy AN SSSR. 2. Chlen-korrespondent AN SSSR (for Kochetkov).
(Cerebrosides) (Chromatographic analysis)

LIKHOSHERSTOV, A.M.; KRITSYN, A.M.; KOCHETKOV, N.K.

Pyrrolysidine alkaloids. Absolute configuration of 1-methylene-pyrrolizidine and other pyrrolizidine bases. Dokl. AN SSSR 141 no.2:361-363 N '61. (MIRA 14:11)

1. Nauchno-issledovatel'skiy institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Kochetkov).

(Perrolizine)

KOCHETKOV, N.K.; KHORLIN, A.Ya.; CHIZHOV, O.S.; SHEYCHENKO, V.I.

Chemical study of Schizandra chinensis. Report No.2: Structure of schizandrin. Izv. AN SSSR. Otd.khim.nauk no.5:850-856 My '62. (MIRA 15:6)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Schisandra chinensis)

KOCHETKOV, N. K.; KHORLIN, A.Ya.; CHIZHOV, O.S.

Chemical study of Chinese schisandra. Report No. 3: Synthesis and ultraviolet spectra of some derivatives of 2,3,4,2',3',4'-shexamethoxydiphenyl. Izv. AN SSSR. Otd.khim.nauk no.5:856-861 My '62. (MIRA 15:6)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Schisandra) (Biphenyl)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; SHIBAYEV, V.N.

Analogs of coenzymes of carbohydrate metabolism. Report No.1: Synthesis of 3-N-methyluridine diphosphate glucose. Izv.AN SSSR.Otd.khim.nauk no.6:1035-1041 '62. (MIRA 15:8)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Uridine phosphate) (Coenzymes)

KOCHETKOV, N.K.; USOV, A.I.

Monosaccharides. Report No.3: Reaction of the complex of triphenyl sulfite-methyl iodide with some carbohydride derivatives. Izv.AN SSSR.Otd.khim.nauk no.6:1042-1050 '62. (MIRA 15:8)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Monosaccharides)

YELYAKOV, G.B.; STRIGINA, L.I.; KHORLIN, A.Ya.; KOCHETKOV, N.K.

Glycosides of Panax ginseng. Izv.AN SSSR.Otd.khim.nauk no.6: 1125 '62. (MIRA 15:8)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR i Institut khimii prirodnykh soyedineniy AN SSSR.
(Glycosides)

KOCHETKOV, N.K.; DMITRIYEV, B.A.

Monosaccharides. Report No.4: Synthesis of 2,3-dehydro-2,3-dideoxyaldoheptanoic acids. Izv.AN SSSR.Otd.khim.nauk no.7:1262-1267 Jl '62. (MIRA 15:7)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Monosaccharides) (Heptanoic acid)

BUDOVSKIY, E.I.; SHIBAYEV, V.N.; YELISEYEVA, O.I.; KOCHETKOV, N.K.

Synthesis of cytidine phosphate glucose. Izv.AN SSSR.Otd.khim. nauk no.8:1491-1493 Ag '62. (MIRA 15:8)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Cytidine phosphate) (Glucose)

YELYAKOV, G.B.; KHOKLIN, A.Ya.; STRIGINA, L.I.; KOCHETKOV, N.K.

Triterpene saponins. Report No.13: Araloside A from Aralia schmidtii. Izv.AN SSSR.Otd.khim.nauk no.9:1605-1608 S '62. (MIRA 15:10)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR i Institut khimii prirodnykh soyedineniy AN SSSR.
(Saponins) (Glycosides)

DEREVITSKAYA, V.A.; LIKHOSHERSTOV, L.M.; KOCHETKOV, N.K.

Glycopeptides. Report No.11: Synthesis of 6-O-diglycyl-D-glucose and 6-O-triglycyl-D-glucose and 6-O-triglycyl-D-glucose. Izv. AN SSSR.Otd.khim.nauk. no.10:1795-1798 O '62. (MIRA 15:10)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Glycopeptides) (Glucose)

YELYAKOV, G.B.; STRIGINA, L.I.; KHORLIN, A.Ya.; KOCHETKOV, N.K.

Glycosides from ginseng roots (Panax ginseng C.A. Mey). Izv. AN SSSR. Otd.khim.nauk no.11:2054-2058 N '62. (MIRA 15:12)

1. Dal'nevostochnyy filial Sibirskogo otdeleniya AN SSSR i Institut khimii prirodnykh soyedineniy AN SSSR.
(Glycosides) (Ginseng)

KOCHETKOV, N.K.

GOFMAN, A.; FREY, A.I.; RUTSHMANN, I.; OTT, Kh.; SHEMYAKIN, M.M.; KISHFALUDI, L.; KOCHETKOV, N.K.; DEREVITSKAYA, V.A.; PROKOF'YEV, M.A.; SHABAROVA, Z.A.; FILIPPOVA, L.A.; SHANKMAN, S.; KHAYGA, S.; LIV, F.; ROBERTS, M.Ye.; GAVRILOV, N.I.; AKIMOVA, L.N.; KHLUDOVA, M.S.; MAKSIMOV, V.I.; IZELIN, B.M.; SHEPPARD, R.K.; SHKODINSKAYA, Ye.N.; VASINA, O.S.; BERLIN, A.Ya.; SOF'INA, Z.P.; LARIONOV, L.F.; KNUNYANTS, I.L.; GOLUBEVA, N.Ye.; KARPAVICHUS, K.I.; KIL'DISHEVA, O.V.; MEDZIGRADSKIY, K.; KAFTAR, M.; LEV, M.; KORENSKI, F.; BUASSONA, R.A.; GUTTMAN, St.; KHOYGMAN, R.L.; ZHAKENO, P.A.; BAZHUS, S.; LENARD, K.; DUAL'SKI, S.; SHREDER, Ye.; SHMIKMEN, R.; KHOKHLOV, A.S.

Results of the Fourth European Symposium on the chemistry of peptides. Abstracts of reports. Zhur. VKHO 7 no.4:468-476 '62. (MIRA 15:8)

1. Aktsionernoye obshchestvo "Sandos", Basel', Shveytsariya (for Gofman, Frey, Ott, Rutshmann). 2. Farmatsevticheskaya fabrika "G.Rikhter", Budapesht, Vengriya (for Kishfaludi, Korenski, Dualski). 3. Institut khimii prirodnykh soyedineniy AN SSSR, Moskva (for Kochetkov, Derevitskaya, Shemyakin, Khokhlov). 4. Laboratoriya khimii belka Moskovskogo gosudarstvennogo universiteta (for Prokof'yev, Shabarova, Filippova, Gavrilov, Akimova, Khludova). 5. Fond meditsinskikh issledovaniy, Pasadena, Kaliforniya, Sev.Soyed.Shtaty Ameriki (for Shankman, Khayga, Liv, Roberts). 6. Laboratoriya khimii belka Instituta organicheskoy

(Continued on next card)

KOCHETKOV, N.K.; BUDOVSKIY, E.I.; SIMUKOVA, N.A.

Chemical method for the specific splitting of ribonucleic acid. Biokhimiia 27 no.3:519-525 My-Je '62. (MIRA 15:8)

1. Laboratory of Carbohydrates and Nucleotides, Institute for Chemistry of Natural Products, Academy of Sciences of the U.S.S.R., Moscow.

(NUCLEIC ACIDS)

DUBYKINA, N.V.; KOCHETKOV, N.K.

Some derivatives of 3-aminomethylindzole. Zhur. ob. khim. 32 no.1: 81-84 Ja '62. (MIRA 15:2)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Indazole)

KOCHETKOV, N.K.; SOKOLOV, S.D.; VAGURTOVA, N.M.

Radical halogenation of isoxazoles. Zhur. ob. khim. 32 no.1:325-326 Ja '62. (MIRA 15:2)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Isoxazole) (Halogenation)
(Radicals (Chemistry))

KOCHETKOV, N.K.; KUDRYASHOV, L.I.; KLYAGINA, A.P.

Monosaccharides. Part 2: Reaction of methyl-2,3-anhydro-4,6-benzylidene-α-D-alloside with sodium malonic ester. Zhur. ob.khim. 32 no.2:410-413 F '62. (MIRA 15:2)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Monosaccharides)
(Malonic acid)

KHORLIN, A.Ya.; OVODOV, Yu.S.; KOCHETKOV, N.K.

Triterpene saponins. Part 2: Saponins from Gypsophila pacifica roots. Zhur.ob.khim. 32 no.3:782-791 Mr '62. (MIRA 15:3)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Saponins) (Triterpenes)

KOCHETKOV, N.K.; DEREVITSKAYA, V.A.; LIKHOSHERSTOV, L.M.; KARA-MURZA, S.G.

Glycopeptides. Part 1: Synthesis of 6-O-glycyl-glucose and 6-O-(D,L-alanyl)-glucose. Zhur.ob.khim. 32 no.4:1159-1166 Ap '62. (MIRA 15:4)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Glycopeptides)

KOCHETKOV, N.K.; VASIL'YEV, A.Ye.

Pyrrolizidine alkaloids. Part 3: Synthesis of some derivatives of dihydroxysenecic (3-methyl-2-hydroxyheptane-2,5-dicarboxylic) acid. Zhur.ob.khim. 32 no.5:1703-1708 My '62. (MIRA 15:5)

1. Institut farmakologii khimioterapii Akademii meditsinskikh nauk SSSR.

(Senecic acid)

KOCHETKOV, N.K.; SOKOLOV, S.D.; LUBOSHNIKOVA, V.M.

Isoxazole series. Part 13: Certain reactions of 3,5-dimethyl-4-nitroisoxazole. Zhur.ob.khim. 32 no.6:1778-1785 Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Isoxazole)

KOCHETKOV, N.K.; BELYAYEV, V.F.; DUDINA, G.S.

Ketovinilation of nitrocyclohexane. Zhur.ob.khim. 32 no.6:1785-1789 Je '62. (MIRA 15:6)

1. Belorusskiy gosudarstvennyy universitet.
(Cyclohexane) (Vinylation)

DEREVITSKAIA, V.A.; LIKHOSHERSTOV, L.M.; KARA-ULUZA, S.G.; KOCHETKOV, N.K.

Glycopeptides. Part 2: Synthesis of (-O-aminoacyl derivatives of glucose. Zhur.ob.khim. 32 no.7:2134-2140 Jl '62. (MIRA 15:7)

1. Institut khimii prirodnykh soyedineniy AN SSSR.
(Glycopeptides) (Amino acids) (Glucose)

LIKHOSHERSTOV, A.M.; KRITSYN, A.M.; KOCHETKOV, N.K.

Pyrrolizine alkaloids. Part 4: Total synthesis of the 1-methylene-pyrrolizine alkaloid. Zhur.ob.khim. 32 no.7:2377-2379 Jl '62. (MIRA 15:7)

1. Institut farmakologii i khimioterapii Akademii meditsinskikh nauk SSSR.

(Pyrrolizine) (Alkaloids)